

Description of a New *Schmidtiana* Species (Coleoptera, Cerambycidae) from the Philippines, with Biogeographical Notes on the Genus in the Philippine Archipelago

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Abstract A new callichromatine species belonging to the genus *Schmidtiana* is described and illustrated from Negros and Panay Islands of the Philippines under the name *S. boudanti* nov.

Key words: Coleoptera, Cerambycidae, Callichromatini, *Schmidtiana*, new species.

Introduction

MORATI and HUET (2004) have recently catalogued all the species in the genus *Schmidtiana* PODANÝ, 1971, and transferred some of them from the genus to *Pachytetria* AUDINET-SERVILLE, 1839, as did several other authors before (HÜDEPOHL, 1983; HAYASHI, 1992; NIISATO, 1998). The genus *Schmidtiana* currently includes twenty-four species relatively well differentiated, all distributed in Southeast Asia (Vietnam, Laos, Thailand, Malaysia, Indonesia and the Philippines).

Four species of *Schmidtiana* have so far been known from the Philippines; they are *S. iliocana* (SCHULZE, 1920) from Luzon Island, *S. legrandi* MORATI et HUET, 2003 from Eastern Visayas, *S. palawana* (SCHULZE, 1922) from Palawan Island, and *S. gertrudis* HÜDEPOHL, 1983 from Mindanao Island.

We recently obtained an undescribed species of *Schmidtiana* from Panay and Negros Islands of the Western Visayas, the Philippine Archipelago. The species in question is somewhat allied to *S. legrandi* MORATI et HUET, but provided with marked morphological differences. HÜDEPOHL (1992) already noted the *Schmidtiana* species from Panay Island in his key to the Philippine species of the genus, and considered it to be a

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geographical variety of *S. iliocana*. Our detailed study of the western Visaya species has revealed that it has enough differences to be regarded as an independent species. In the following lines, we are going to describe and illustrate it under the name *S. boudanti* nov.

***Schmidtiana boudanti* VIVES et NIISATO, sp. nov.**

(Figs. 1, 2 a-b & 3)

Body length: 43–44 mm in male (44 mm in holotype), 48–52 mm in female; body width: 12–13 mm in male (13 mm in holotype), 12–15 mm in female.

Coloration. Head orange except for base and internal margin of mandible, gula and basis of mentum brownish. Antennae yellowish orange. Pronotum orange, purple-brownish in apex and base, longitudinal stripe at sides, though dark parts are sometimes enlarged except for a median rounded spot and lateral narrow stripes. Prosternum including lateral callosities orange (male) or almost purplish black (female). Mesothorax yellow on mesonotal plate, intercoxal process shiny black; metepisterna infusate (male) or brownish-red at middle (female). Scutellum bluish-black. Elytra dark blue, with metallic sheen. Hind wings dark bluish. Abdomen bright purple blue. Legs entirely yellowish orange except for infusate apical parts of tarsal claws.

External structure. Head nearly as wide as pronotal apex; mandibles stout and elongate, bent apically; labrum long, membranous at the bilobated anterior margin; epistome trapezoidal; maxillary palpi long and robust, with terminal segment longer than the basal two segments combined; frons wide and depressed, with a fine median longitudinal furrow; temple short. Antennae long and stout, reaching the apical quarter (male) or third (female) of elytra, covered with short yellow pubescence and long golden hairs along internal margins of basal six segments, which are canaliculated, and also with an external tooth at each of segments 3 to 10; segment 2 very short and transverse; segment 11 appendiculate at the extremity.

Pronotum slightly transverse, strongly punctured except for the posterior area which is smooth and shining; disc with anterior and posterior depressions strongly marked and well defined, and also with a deep impression at sides; marginal callosities very prominent, but not concealing the lateral spines of pronotum which are smooth (male), or less prominent and the lateral spines almost indistinct (female); surface covered with long and sharp brownish scales, except for a naked smooth longitudinal area on female disc. Scutellum elongate triangular, though wider in male, with fine punctuation and pubescence similar to those on elytra.

Elytra elongate, flattened on dorsum, with marked humeri which are the widest, provided with two indistinct longitudinal ribs; sides straightly and slightly acuminate apicad in males, almost parallel in females; apex rounded, with marked apical angles; disc finely reticulated near bases, entirely and densely covered with purplish velvety scale-like pubescence.

Prosternum coarsely punctured (male) or smooth (female), with a small round

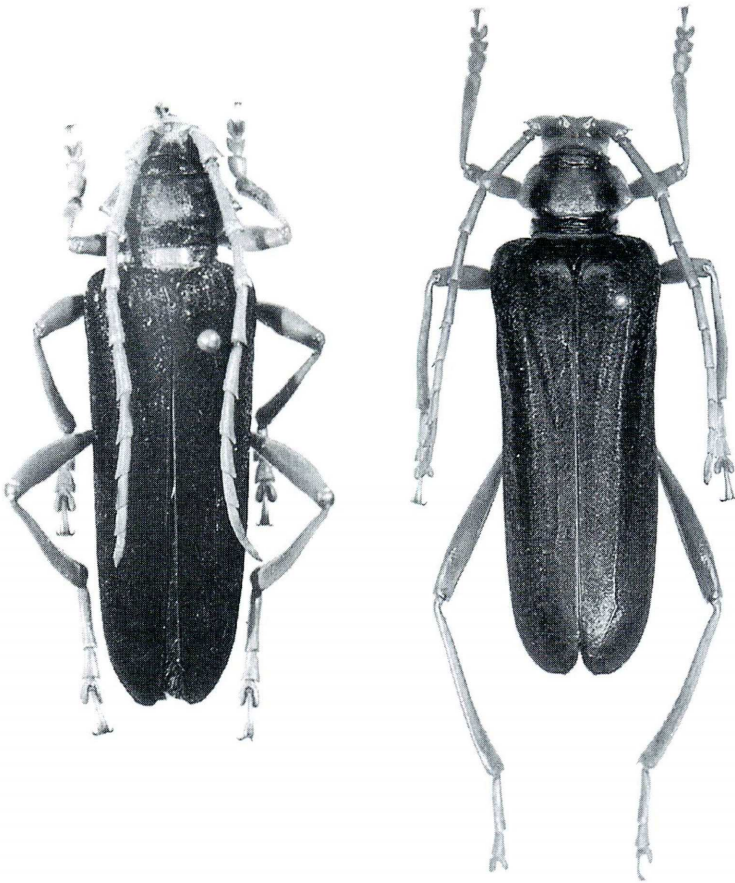


Fig. 1. *Schmidtiana boudanti* sp. nov. from Negros Island, the Philippines; left, holotype male; right, paratype female.

callosity on middle of intercoxal process and also with an oblong impression on declined part. Mesosternum short, longitudinally grooved along median line; intercoxal process wide and depressed in male, or wider and shiny in female. Mesepimera and mesepisterna strongly punctured, densely covered with grey pubescence. Metasternum broad, shining and grooved longitudinally, scattered with fine punctures and short golden pubescence. Metepisterna finely punctured and covered with grey pubescence.

Abdomen finely punctured; ventrite 1 long, with dense silvery pubescence at sides and along posterior margin, similar pubescence almost indistinct on other ven-

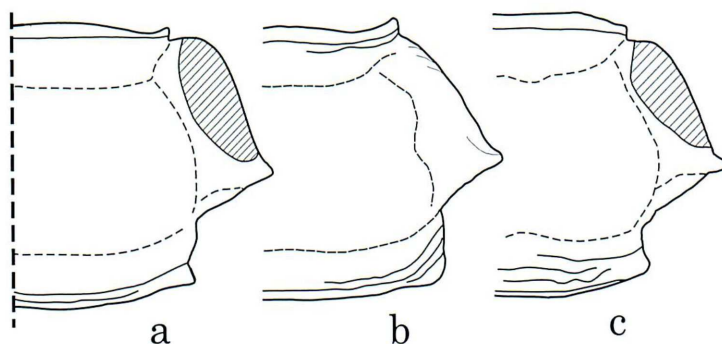


Fig. 2. Pronota of *Schmidtiana* species from the Philippines. — a, *S. boudanti* sp. nov. from Negros Island, male; b, ditto female; c, *S. legrandi* MORATI et HUET from Leyte Island, male.

trites; ventrites 1–3 smooth and shiny along posterior margin; ventrite 6 strongly emarginate in male, or with a short indentation in female. Sternite 8 semicircular, truncate on apical margin though a weak concavity presents at middle in male. Tergite 8 long, arcuately narrowed to rounded apex (male), or short, straightly narrowed apicad (female).

Legs long and slender, with metafemora reaching abdominal apex; metatibiae narrow, slightly sinuate and flattened in males; metatarsi long, with first segment longer than 2nd and 3rd ones combined; claws long and curved.

Male genitalia. Median lobe long and rather thick, slightly arcuate in middle, with dorsal plate straightly narrowed in apical 3/5, with strongly pointed apical part; endophallus provided with a pair of two longitudinal sclerotized series consisting of five thorn-shaped short teeth, with basal complex forming bifid plate, heavily sclerotized, provided with a median bispinose protuberance. Tegmen short and moderately broad, with paramere rounded at apices which are provided with rather long setae.

Type series. Holotype ♂, Philippines, Negros Is., 28–IV–2003, local collectors (in coll. Museu Zoologia Barcelona). Paratypes: 1 female, Panay Is., 28–IV–2003, local collectors (in coll. E. VIVES, Terrassa); 2♂♂, 2♀♀, Negros Is., IV–1989, local collectors (in coll. T. NIISATO, Tokyo); 3♀♀, Mt. Canlaon, Negros Is., 18–V–1985, local collectors (in coll. T. NIISATO, Tokyo).

Etymology. This species is dedicated to our friend and colleague Jean-Louis BOUDANT (Saint-Lo, France).

Notes. This new species is similar to *Schmidtiana legrandi* MORATI et HUET, 2003 in the coloration and the elytral structure, but it can be easily distinguished from the latter, because of the different pronotal shape, and the presence of large orange areas on the prothorax and mesothorax which are always black or purplish blue in *S. legrandi*. In *S. boudati* nov., the legs and the antennae are orange, and also the sternal configuration is different. The shapes of prosternum and mesosternum are also very different, as well as the armour of endophallus. In some characters, *S. boudati* sp. nov.

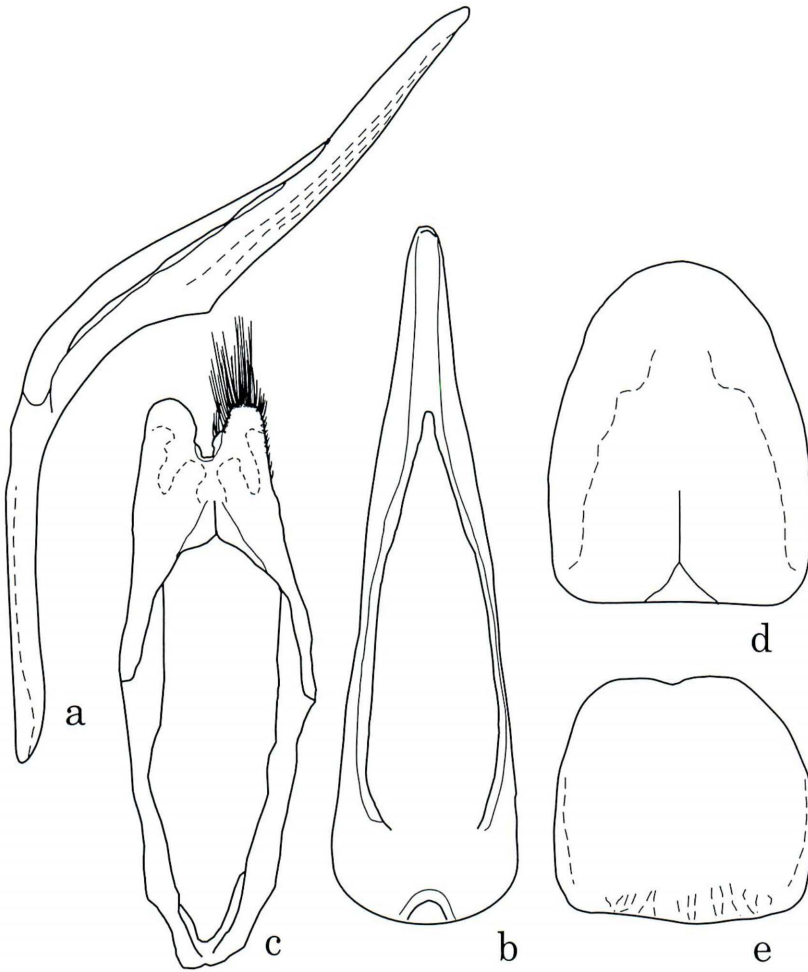


Fig. 3. Male genital organ of *Schmidtiana boudanti* sp. nov. from Negros Island, the Philippines. — a, Median lobe in lateral view; b, median lobe, apical part in dorsal view; c, tegmen; d, tergite 8; e, sternite 8.

approaches to *S. iliocana* (SCHULTZE, 1920) and to *S. gertrudis* HÜDEPOHL, 1992, but is separated from them by the different structure of pronotum and abdominal sternites.

Biogeographical Notes on *Schmidtiana* in the Philippines Archipelago

We currently know five species of the genus *Schmidtiana* PODANÝ, 1971 from the Philippine Archipelago. Surprisingly we do not know any species of the genus *Pachyteria* AUDINET-SERVILLE, 1833 from these islands, which is very close both morphologically and biogeographically to *Schmidtiana* everywhere in Southeast Asia, particularly

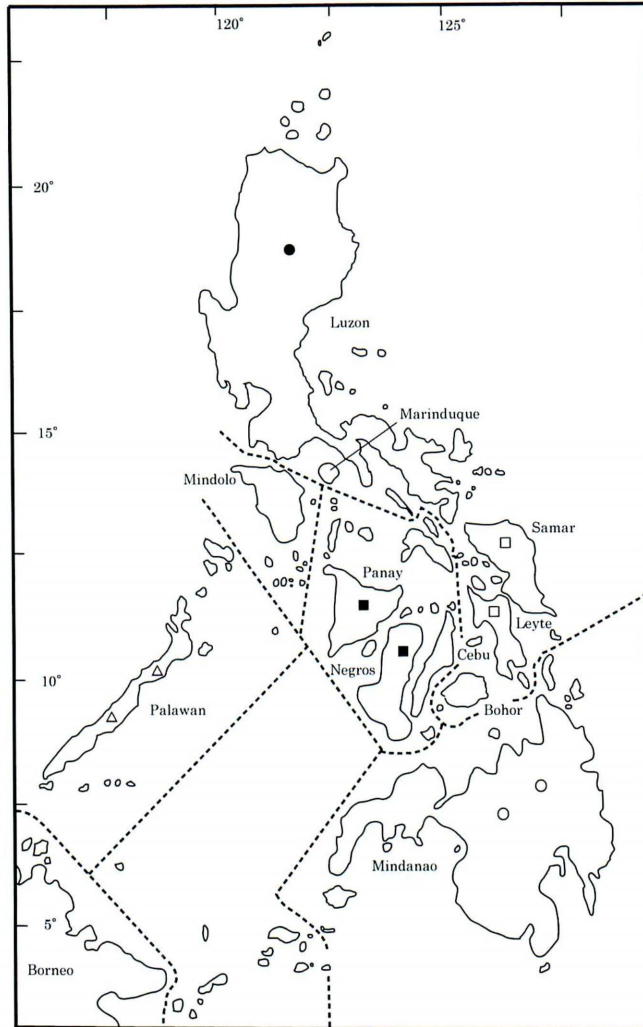


Fig. 4. Biogeographical areas of the Philippines by VANE-WRIGHT (1994), with distribution of *Schmidtiana* species. — Black circle, *S. iliocana* (SCHULTZ); White circle, *S. gertrudis* HÜDEPOHL; White square, *S. legrandi* MORATI et HUET; Black square, *S. boudanti* sp. nov.; White triangle, *S. palawana* (SCHULZE).

in Borneo.

The five species of *Schmidtiana* from the Philippines are distributed according to biogeographical areas as proposed by VANE-WRIGHT (1994), which were based on HEANEY's (1986) work on the distribution of endemic mammals, and also on a re-evaluation of SEMPER's (1892) ideas on the distributional patterns of the Lepidoptera in the Philippines. VANE-WRIGHT (1994) subsequently divided the archipelago into seven

biogeographical areas coincident with postulated land bridges among groups of islands during the Pleistocene regression of sea level (MATSUDA, 1997). Each species of *Schmidtiana* dwells in a different area, except for the regions of Mindoro and the Sulu Islands, where we have so far no evidence of the presence of this genus.

Accordingly, we have observed that *Schmidtiana iliocana* is distributed in the region of Luzon; *S. palawana* in the group of islands of Palawan; *S. legrandi* in the region of Eastern Visayas; *S. gertrudis* in the region of Mindanao; and *S. boudanti* in the region of Western Visayas. The high degree of speciation of the Cerambycidae in the Philippines parallels with that of many other genera broadly distributed in Southeast Asia, and highly diversified in the Philippine Archipelago, with many species characteristic of each island, just as it happens with the genera *Aphrodisium*, *Callimetopus*, *Cereopsius*, *Blepephaeus*, etc. Sometimes they even irradiate towards areas of the Wallacea like Sulawesi, as it is the case of the genera *Abatocera*, *Nemophas* and *Ephies*.

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要 約

E. VIVES・新里達也：フィリピン諸島から発見された *Schmidtiana* 属アオカミキリの1新種および同属のフィリピン諸島における生物地理学的考察。—— フィリピン諸島の *Schmidtiana* 属のアオカミキリ類は、これまでに4種が知られていたが、西ビサヤ地域から新たに1新種が発見され、本論文で *S. boudanti* sp. nov. と命名し、記載した。本種は、HÜDEPOHL (1992) によって、ルソン島に分布する *S. iliocana* (SCHULTZ) の地域変異としてすでに紹介されているが、前胸背板や腹部腹板、雄交尾器の特徴から、独立種として明瞭に区別できる。また、レイテ島およびサマール島から記載された *S. legrandi* MORATI et HUET にもやや似ているが、前胸背板はつねに橙色部を持つこと、はるかに大きく幅広い体形、雄交尾器の特徴などから容易に識別することが可能である。

VANE-WRIGHT (1994) は、哺乳類と鱗翅類の分布をもとにして、フィリピン諸島を生物地理学的に7つの地域に区分している。この7つの地域のうち、*Schmidtiana* 属アオカミキリ5種は、ルソン地区 (*S. iliocana*)、東ビサヤ地区 (*S. legrandi*)、西ビサヤ地区 (*S. boudanti* nov.)、ミンダナオ地区 (*S. gertrudis*) およびパラワン島嶼区 (*S. palawana*) に、それぞれ異所的に分布している。フィリピン諸島の *Schmidtiana* 属アオカミキリ5種はたがいに近縁で、おそらく属内では単系統群を形成していると推定されるが、このように狭い地域で比較的多くの種に分化できたのも、各島嶼群で隔離されて独自に進化を遂げた結果であるものと考えられる。

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